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# California Regional Water Quality Control Board

## San Francisco Bay Region

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Arnold Schwarzenegger  
Governor

## Invitation to Comment on Proposed Cleanup Plan for ARCO Service Station 1401 2<sup>nd</sup> Street, San Rafael, California

August 2007

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### Summary

The San Francisco Bay Regional Water Quality Control Board (Water Board) announces a proposed groundwater cleanup plan for the ARCO Service Station site. The cleanup plan consists of injecting oxygen to decompose dissolved petroleum hydrocarbon compounds into carbon dioxide and water.

We invite any interested parties to comment on the proposed cleanup plan. **Written comments are due to the Water Board at the above address by September 11, 2007.**

### Background

The site is located at the southwest corner of the intersection of 2<sup>nd</sup> and D Streets in San Rafael, California. The site is currently operated as an ARCO service station and mini-mart. The site is shown on the attached site location map.

A petroleum fuel release was first reported when the old underground storage tanks (USTs) were replaced in 1989. More gasoline was found in soil samples during the dispenser and piping upgrade in 2001. Typical petroleum hydrocarbon compounds have been found at the site.

The Water Board is the lead agency overseeing soil and groundwater investigation and cleanup at this site. In January 2007 the Water Board sent a letter to ARCO requiring the submittal of a Corrective Action Plan for this site.

### Site Investigations

Several subsurface investigations have been conducted at this site since 1989. Soil and groundwater sampling has been conducted around the site to define the extent of contamination. ARCO has installed several monitoring wells onsite and has conducted regular groundwater monitoring since at least March 1996.

Sample results show typical petroleum compounds at the site. These compounds include gasoline, currently at up to 13,000 micrograms per liter (equivalent to parts per billion); benzene at up to 2,400 micrograms per liter; and MtBE at up to 680 micrograms per liter.

Shallow groundwater beneath the site is not currently used for drinking and no domestic or irrigation wells have been identified within ½ mile down gradient (southeast) of



the site. The City of San Rafael supplies drinking water to the site and the vicinity.

### **Proposed Cleanup Activities**

A three phase study has been proposed to test the cleanup strategy. Phases I and II include well installation and a pilot injection study. If the pilot study is successful in treating the most contaminated portion of the site it will be expanded to treat other areas of the site if needed. ARCO has selected the use of oxygen injection to destroy hydrocarbons in ground water. The typical oxygen injection system is an in-situ process utilizing bubbles of oxygen-rich air, injected into saturated soil, to decompose dissolved petroleum hydrocarbon compounds. The bubbles of oxygen are forced out into the surrounding saturated soil and react with the hydrocarbons, producing carbon dioxide and water.

The effectiveness of groundwater cleanup pilot study will be monitored periodically by collection and analysis of water samples from monitoring wells.

We invite any interested persons to comment on the proposed cleanup plan. Written comments(or e-mailed) are due to the Water Board at the above address by September 11, 2007. To participate, you may submit comments to the Water Board case manager as listed in the Box "For additional Information."

### **Water Board Oversight Process**

The Water Board oversees more than 3,000 site cleanup cases in the Bay Area, including more than 2,000 leaking fuel tank cases. Water Board staff direct investigation or cleanup work and set cleanup standards under Water Code authority. Responsible parties (e.g. past operators) propose specific measures, perform the actual work, and

submit technical reports documenting task completion.

As part of this process, we circulate key documents, such as draft cleanup plans, to interested persons and provide an opportunity for comment on these documents. Interested persons include other agencies, local officials, non-profit organizations, and interested landowners and residents/occupants in the site vicinity.

**For additional information:** contact Water Board case manager Ralph Lambert at (510) 622-2382 or [ralambert@waterboards.ca.gov](mailto:ralambert@waterboards.ca.gov)

The site documents are available for public review at the following locations:

California Regional Water Quality Control Board – San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, California 94612  
Tel: (510) 622-2430

or:

Regional Water Quality Control Board website:  
[http://www.waterboards.ca.gov/sanfranciscobay/pub\\_notice.htm#sitecleanup](http://www.waterboards.ca.gov/sanfranciscobay/pub_notice.htm#sitecleanup), or  
<http://geotracker.swrcb.ca.gov>  
Global ID #T0604100008